

free, giving evidence of its toughness and definite walling. It contained a single germinal spot.

The New-Zealand *Peripatus* is much smaller than the Cape species; and yet the embryos are much larger. In all the specimens examined by me the embryos were far fewer in number than ordinarily in *P. capensis*; yet Captain Hutton in one instance found 26 embryos in one female. The embryos, as observed by Captain Hutton, occur in successive stages of development in the oviduct, and are not all nearly equally mature as in *P. capensis*. The embryos have the contents of the developing intestine coloured red in *P. capensis*; in *P. novæ-zealandiæ* the contents are white. The embryos appear in the New-Zealand species not to go through the preliminary worm-like stage, with the body spirally coiled (Phil. Trans. *l. c.* pl. lxxv. fig. 1), which is present in *P. capensis*; they seem to have lost this earlier stage, and to skip at once to the further stage of *P. capensis* (Phil. Trans. *l. c.* pl. lxxv. fig. 4), the first indication of form being the appearance of a hilum near one pole of the ovoid egg, which hilum marks the spot where the tail and head meet in the doubled-up condition of the embryo.

VII.—On Rhopalocera from Japan and Shanghai, with Descriptions of new Species. By ARTHUR G. BUTLER, F.L.S. &c.

MR. MONTAGUE FENTON (of Tosengi, Takanawa, Tokei, Japan) has recently forwarded to the British Museum a small box of Diurnal Lepidoptera, comprising the following species.

*Cænonympha annulifer*, n. sp.

Nearly allied to *C. geticus*, but larger, longer in the wing, much darker; on the underside with the plumbagineous streak, which bounds the ocelli of secondaries internally, straight on its inner edge instead of undulated. Expanse of wings ♂ 1 inch 7 lines, ♀ 1 inch 10 lines.

About 370 miles from Tokei (Yedo).

This species is probably the same as that noted by the Rev. R. P. Murray as *Cænonympha cædipus*, Fabricius.

*Neope Fentoni*, n. sp.

*Lasiommata epimenides* ♀, Ménétré's, Reisen und Forschungen im Amur-Lande, ii. 1, Lepid. tab. iii. fig. 9 (1859).

In the heart of the mountains, about 370 miles from Tokei.

There can be no question that, whereas the male described and figured by Ménétrés is a *Pararge* allied to *P. deidamia* and *P. dejanira*, the female is a *Neope* not very widely separated from *N. Gaschkevitschii*; it is far more nearly allied to the succeeding species than to the male associated with it.

*Neope callipteris*, n. sp.

♂. Bronzy olive-brown; external area smoky brown; outer border paler, lunated: primaries with a discal series of ochraceous spots, forking above the third median branch; the veins upon the central region densely clothed with dark brown scales, especially the submedian vein and the three median branches; two dusky streaks across the apical half of the cell: secondaries with six ochraceous spots, the first, second, fourth, and fifth oval and enclosing large, ovate, black spots, the last small, transverse, enclosing two small black spots: body bronzy brown; thorax reddish in front, greenish in the centre. Wings below altogether paler, sandy yellowish; external area dusky: primaries with two brown bars across the apical half of the cell, a lunated angulated transverse discal band of the same colour; three pale subapical spots, the uppermost trifold, the second ocelliform; a lunulated submarginal stripe: secondaries with the basal area slightly dusky, three pale-edged dusky lines from the costal nervure across the cell; a lunated and angulated, diffused, brown, discal line bounding the ocelli internally; six ocelli, the first and fifth large, the third extremely minute, the sixth small and geminate; all black, with white pupils and yellow irides; area immediately beyond the ocelli beautifully pinky opaline; a brown-edged series of compressed angulated spots of the same colour close to the margin; edge of margin black; fringe white-varied: body below sordid whitish; legs ochreous. Expanse of wings 2 inches 7 lines.

From the same locality as the preceding species, to which it is allied.

*Neptis ludmilla*, Herrich-Schäffer.

This species, which was taken at the same locality with the preceding species, is new to Japan.

*Vanessa hamigera*, n. sp.

Allied to *V. agni* and *V. comma*.

Wings above bright orange tawny; basal area bronzy brown; outer border golden brown, flecked with black; fringe varied with white; a submarginal series of semiconnected reddish chocolate-coloured spots, immediately inside which the

ground-colour becomes yellowish in tint: primaries with a large bifid black spot cross the middle of the cell; a second similar spot divided by the base of the first median branch; a broad patch (widest upon the costa) across the discocellulars; two small, quadrate, discal black spots, placed obliquely upon the median interspaces; a broad, tapering, subapical patch, dentated externally, its base resting upon the costal margin; a large, subquadrate chocolate patch, confluent with the submarginal series (so as to enclose a lunule of the ground-colour) at external angle, and two linear, subapical, angulated markings of the same colour, but feebly indicated: secondaries with a rounded subcostal spot, an elongated, oblique, discocellular spot, and a spot at the base of each median interspace black; a broad discal macular band of chocolate, only separated from the submarginal spots of the same colour by a series of five golden-orange lunate spots: body brown; crest, collar, and thorax densely clothed with bright olive-green hairs having bright bronze reflections; palpi grey, fringed on their upper edge with white, their inferior surface white, edged externally with black. Wings below brown, varied with grey, and covered with irregular black striæ; two extremely irregular transverse black lines, indicating a central band; the disk of primaries and a broad, subapical, costal patch on the secondaries, white, clouded with grey and striated with grey and black; a discal series of more or less rounded spots, and a submarginal series of lunated spots, golden green: secondaries with a central, silvery white, semicircular marking; pectus purplish grey; tibiæ and tarsi yellow; venter grey, yellowish towards the anus. Expanse of wings 2 inches 2 lines.

About 370 miles from Tokei (Yedo).

*V. hamigera* is probably the species erroneously referred to *C. album* by Mr. Murray; it is utterly distinct.

*Argynnis nerippe*, Felder.

A very fine example, differing from the typical form in having the submarginal spots of secondaries tawny, and the ocelli below as large as the black spots above.

About 370 miles from Tokei.

*Argynnis rabdia*, n. sp.

*Argynnis daphne*, Butler (*nec* Denis), Journ. Linn. Soc. ix. 1866; Murray, Ent. Mo. Mag. xiii. p. 33, 1876.

This species is certainly distinct from its European congener, being larger, paler, less heavily spotted above and much more

so below, much duller and more sickly-coloured on the under-side, with the transverse lines of secondaries chocolate-brown; the lilacine streaks replaced by slaty grey. Expanse of wings 2 inches 3 lines.

About 370 miles from Tokei.

*A. rabdia* differs from *A. daphne* in structure as follows:—Palpi longer; primaries more produced, their outer margin not convex (more inclined to be concave), scarcely undulated. An example from Hakodadi, in the Museum, more nearly resembles *A. daphne*, but still differs too evidently from it to admit of their being associated together.

*Colias palæno*, Linnæus.

Of this species Mr. Fenton says:—"I had great trouble in capturing two couples on the side of a barren volcanic mountain covered with scanty grass, low herbs, and wind-dwarfed pines, at an elevation of about 7000 feet above sea-level (registered by a pocket aneroid)."

*Thecla japonica*, Murray.

About 370 miles from Tokei.

Mr. Murray need not be in the slightest degree alarmed for his species; it is perfectly distinct from *T. smaragdina*. We have the latter from Hakodadi.

Before passing on to Chinese species, I should wish to make a few remarks upon Mr. Murray's paper, "List of Japanese Butterflies," because if it be, as its author states, merely preliminary, it will be well for him to have an opportunity of weighing my opinions against his own, and, at any rate, he will have the advantage of any little facts which I am able to give him (or any other who may wish to study Japanese butterflies).

*Lethe diana* is not only not identical with *S. marginalis*, Motsch., but is probably not congeneric with it; the latter is, in all probability, a *Mycalesis*. *L. Whitelyi* is perfectly distinct from *Lasiommata Maakii*, being quite different in form, colour, and marking.

*Pronophila Schrenki* is not a *Satyrus*, but a *Lethe*.

*Argynnis ella* is = *A. anadyomene*; the *A. daphnis* of Motschoulsky is probably *A. nerippe*; *A. adippe* is not Japanese.

It is extremely doubtful whether *Araschnia burejana* is *A. strigosa*, although I have regarded them as possibly identical.

*Neptis aceris* (var. *eurynome*). Under this name Mr. Mur-

ray has confounded two very distinct species, neither of which is identical with Westwood's species.

As regards the white and yellow butterflies I will say nothing, or I might overstep the bounds of courtesy, which (especially to a friend) I would rather avoid.

The following butterflies from Shanghai have been liberally presented to the collection by Mr. W. B. Pryer.

*Neope segonax*, Hewitson.

This appears to differ sufficiently from *N. Muirheadii* to be kept separate.

*Lethe syrcis* ♂, Hewitson.

We previously only possessed the female of this species.

*Lethe lanaris*, n. sp.

♂. Wings smoky brown, the disk of primaries rather paler; the basal area of all the wings densely clothed with woolly hair: primaries with a dusky submarginal line: secondaries with five indistinct ocelli, the first four dusky, with scarcely traceable irides, the fifth larger, dull black, with white pupil and diffused sordid testaceous iris; a whitish submarginal stripe, intersected by a blackish line. Primaries below with the basal two thirds uniformly smoky brown, apical third and internal area greyish; five discal ocelli in an almost straight line (the first and last slightly smaller), black, with white pupils, yellow irides, and dusky zones surrounded with lilacine; a whitish submarginal stripe intersected by a blackish line: secondaries smoky brown, crossed by two dusky central lines, the outer one concave to third median branch, and then angulated to back of apical ocellus; six discal ocelli, the first and fifth four times as large as the others (which are of the size of those in the primaries), similar in character to those of primaries; outer border whitish, with a submarginal black line; margin black. Expanse of wings 2 inches 10 lines.

Near to *Lasiommata Maaki* of Bremer and *Pronophila Schrenki* of Ménétrés.

*Pararge deidamia*, Eversmann.

This is the male of *P. Ménétrésii*.

*Mycalesis sangaica*, n. sp.

Allied to *M. janardana*. Wings above smoky brown; outer border narrowly whity brown, with marginal and sub-

marginal black lines; primaries with a large ocellus on first median interspace, black, with white pupil and narrow yellow iris. Wings below sandy brown, mottled with grey, crossed by a central narrow externally diffused lilacine streak; outer border narrowly whitish brown, with submarginal and marginal dark brown lines: primaries with four ocelli, the second and third extremely small and sometimes obsolete, the first also small but well-defined, the fourth much larger, black with white pupils and yellow irides; secondaries with seven ocelli of similar character, but surrounded by pale zones, the second, third, and seventh very small, the fifth largest. Expanse of wings 1 inch 11 lines.

This species is also in the Museum from Mongolia.

*Synchloë sordida*, n. sp.

♂. Wings above white, base blackish: primaries with the basal half of costa grey; an oblong costal patch at apex, its inner margin dentated, its externo-inferior angle confluent with the first of three subapical marginal conical spots, all greyish brown: secondaries with a costal and four decreasing squamose marginal spots blackish. Primaries below with the basal three fifths of discoidal cell and the basal half of costa densely irrorated with dark grey; apical area sandy yellow, sparsely irrorated with grey; two discal blackish spots as in *S. rapæ*: secondaries pale yellow, densely irrorated with dark grey, excepting the veins and internervular folds; base of costa golden orange. Expanse of wings 2 inches 4 lines.

Allied to, but very distinct from, *S. rapæ*.

*Synchloë claripennis*, n. sp.

♂. Wings above white, with black markings nearly as in *S. gliciria*, but the base less suffused with grey, and the large discal black spots of primaries absent on the upper surface: primaries below with the discal spots well marked and large, the basal two fifths of the cell grey; secondaries with the lower half of the cell and the median interspaces greyish, base of costa broadly orange. Expanse of wings 2 inches 8 lines.

Mr. Pryer has several examples of this species.

*Pyrgus sinicus*, n. sp.

Allied to *P. maculatus*; primaries the same; secondaries above with the central transverse interrupted streak composed of only three well-separated white spots, the outer or discal

series of five spots, all small: secondaries below very different from *P. maculatus*, sordid white; a rather broad olive-brown band, shorter than the darker band of *P. maculatus*, and crossed by white veins, indistinctly bordered with white internally, and broadly white-bordered externally; the internomedian, first median, and discoidal interspaces irrorated with the same brown (beyond the white border); external area broadly brown, its inner half blackish; no trace of the angulated submarginal white streak common to *P. maculatus*; fringe white, spotted with brown. Expanse of wings 1 inch 3 lines.

I have seen several examples of this species.

VIII.—On *Polyzoa* from Iceland and Labrador.

By the Rev. THOMAS HINCKS, B.A., F.R.S.

[Plates X. & XI.]

THE species noticed in the present paper were obtained by Dr. Wallich off the coasts of Iceland and Labrador. For the opportunity of examining them I am indebted to Mr. Busk. Some new forms occur amongst them; and they have besides their special interest as illustrating local variation and geographical distribution.

The material which I have dealt with in this paper has been for a very long time in my hands, but after partial examination was laid aside under the pressure of other engagements.

ICELANDIC SPECIES.

Order INFUNDIBULATA.

Suborder Cheilostomata.

Genus HIPPOTHOA, Lamx.

1. *Hippothoa expansa*, Norman.

A single specimen of this form occurs on shell. Off Reikiavik, in 100 fathoms, amongst icebergs. All the Icelandic species were taken in this locality.

[Arctic seas, not uncommon (*Norman*, 'Valorous' dredgings); Shetland (*id.*.)]